Claims:

1. An apparatus that transmits content organized into channels, wherein a channel's content includes a plurality of URL data items and each URL data item is addressed by a URL, the system comprising:

means for assigning one or more multicast addresses to each channel,

means for scheduling the assembling of a channel's content;

means for assembling the channel's content;

means for fragmenting the channel's content into packets, wherein each packet is addressed with one of the channel's multicast addresses; and

means for multicasting the packets.

2. The apparatus of claim 1, wherein the means for multicasting the packets includes means for transmitting the packets to a multicast receiver of a multicast network.

3. The apparatus of claim 1, further comprising means for encrypting a subset of a channel's packets prior to multicasting, wherein the encryption means encrypts either all or a part of the packet and wherein each channel's packets are encrypted with a set of encryption keys which are unique to that channel.

4. The apparatus of claim 3, further comprising:

means for receiving requests from a receiver of the multicast for access to a channel's packets,

means for mapping the requested channel to the multicast addresses that carry the channel's packets, and

means for requesting authorization for the receiver to access the requested channel's packets.

5   The apparatus of claim 4, further comprising means for authenticating the requests to ensure that the requests originated from the receiver for which access is being requested.

6.   The apparatus of claim 2, wherein the multicast network is a geosynchronous satellite digital TV broadcast system.

7.   The apparatus of claim 1, wherein the multicast network is a one-way cable TV network.

8.   The apparatus of claim 1, wherein the multicast network is a digital video broadcast (DVB) network.

9.   The apparatus of claim 1, wherein the packets are multicast to a plurality of receivers.

10.   The apparatus of claim 9, wherein a channel's content includes indexing information which allows URL data items contained within the channel's content to be quickly looked up by the receiver which receives the channel's content.

11.   The apparatus of claim 10, wherein the channel's content further includes a data structure containing each domain name present in the URLs of the URL data items within the channel's content.

12.   The apparatus of claim 9, further comprising a conditional access system for controlling each receiver's access to packets, wherein each receiver can only access packets which contain multicast addresses which the conditional access system has authorized the receiver to access.

13.   The apparatus of claim 12, wherein the means for multicasting

2   the packets is a geosynchronous satellite digital TV broadcast earth station.

14.   The apparatus of claim 12, further comprising:

2   means for receiving requests from the receivers to obtain access to a

channel's packets,

4   means for mapping the requested channel to the multicast addresses

that carry the channel's packets, and

6   means for authorizing the receivers' access to a channel's packets in

response to the receivers' request for access.

15.   The apparatus of claim 13, wherein a channel's content includes

2   indexing information which allows URL data items contained within the

channel's content to be quickly looked up by the receiver which receives the

4   channel's content, the system further comprising:

means for scheduling a configurable number of retransmissions of the

6   channel's previously assembled content;

means for fragmenting and multicasting the channel's content according

8   to the schedule; and

means for specifying the transmission rate of the channel's content,

10   wherein the packets containing the channel's content are multicast at the

specified rate.

16.   The apparatus of claim 13, further comprising means for

2   compressing a subset of the URL data items, wherein each URL data item is

compressed individually independent of other URL data items such that each

4   compressed URL data item can be decompressed without decompressing other

URL data items.

17.   The apparatus of claim 16, wherein the URL data items are compressed with a lossless data compression algorithm.

18.   The apparatus of claim 1, further comprising:

means for scheduling a configurable number of retransmissions of a channel's previously assembled content; and

means for fragmenting and multicasting the channel's content according to the schedule.

19.   The apparatus of claim 18, further comprising means for specifying a transmission rate of a channel's content, wherein the packets containing the channel's content are multicast at the specified rate.

20.   The apparatus of claim 19, further comprising:

means for assigning one or more multicast addresses to an announcement packet, wherein the announcement packet includes an announcement of an upcoming transmission of a channel's content; and

means for multicasting the announcement packet prior to the multicast of the packets containing the channel's content.

21.   The apparatus of claim 19, wherein the channel's content includes a data structure containing each domain name present in the URLs of the URL data items within the channel's content.

22.   The apparatus of claim 19, wherein the packets are multicast to a plurality of receivers and wherein a channel's content includes indexing information which allows URL data items contained within the channel's content to be quickly looked up by the receiver which receives the channel's content.

23.   The apparatus of claim 22, wherein the channel's content further includes a data structure containing each domain name present in the URLs of the URL data items within the channel's content.

24.   The apparatus of claim 1, wherein a channel's content includes a data structure containing each domain name present in the URLs of the URL data items within the channel's content.

25.   The apparatus of claim 1, wherein the means for assembling the channel's content further comprises:

means for assembling a base package of the channel's content, wherein the base package contains each URL data item in the channel; and

means for assembling a delta package of the channel's content, wherein the delta package contains URL data items which have changed or are new since the previous assembling of the base package.

26.   An apparatus that transmits content organized into channels,
wherein a channel's content includes a plurality of URL data items and each
URL data item is addressed by a URL, the apparatus comprising.

        means for scheduling the assembling of a channel's content;
        means for assembling the channel's content;
        means for compressing a subset of the URL data items, wherein each
URL data item is compressed individually independent of other URL data items
such that each compressed URL data item can be decompressed without
decompressing other URL data items;
        means for fragmenting the channel's content into packets; and
        means for multicasting the packets.

27.   The apparatus of claim 26, wherein the URL data items are
compressed with a lossless data compression algorithm.

28.   The apparatus of claim 26, wherein the means for assembling the
channel's content further comprises:
        means for assembling a base package of the channel's content, wherein
the base package contains each URL data item in the channel; and
        means for assembling a delta package of the channel's content, wherein
the delta package contains URL data items which have changed or are new
since the previous assembling of the base package.

29.   The apparatus of claim 28, wherein the means for scheduling the
assembling of the channel's content comprises means for scheduling the
assembling of the base package and means for scheduling the assembling of the
delta package.

30.   The apparatus of claim 28, further comprising means for difference compressing a subset of the URL data items in a channel's content which is present in both the delta package and the previous base package.

31.   The apparatus of claim 30, wherein the difference compression means further comprises:

means for dividing a URL data item in the delta package into sections; and

for each section, means for placing into a compressed version of the URL data item, one of a reference to where that section can be found in the base package, or the section of URL data item from the delta package.

32.   The apparatus of claim 28, further comprising means for assembling a second delta package which contains a subject of the URL data items which have changed or are new since the assembling of the previous delta package.

33.   The apparatus of claim 26, further comprising means for encrypting a subset of a channel's packets prior to transmission, wherein the encryption means encrypts either all or part of the packet and wherein each channel's packets are encrypted with a set of encryption keys which are unique to that channel.

34.   An apparatus that transmits content organized into channels,
wherein a channel's content includes a plurality of URL data items and each
URL data item is addressed by a URL, the apparatus comprising.

          means for assembling a base package of a channel's content, wherein
the base package contains each URL data item in the channel;

          means for fragmenting the base package into packets;

          means for multicasting the base package packets to a plurality of
receivers;

          means for assembling a delta package of a channel's content, wherein
the delta package contains URL data items which have changed or are new
since the previous assembling of the base package;

          means for fragmenting the delta package into packets; and

          means for multicasting the delta package packets to the plurality of
receivers.

35.   The apparatus of claim 34, wherein some of the receivers
comprise a personal computer.

36.   The system of claim 34, wherein some of the receivers comprise
a set top box.

37.   The apparatus of claim 34, further comprising means for
scheduling the assembling of base packages and delta packages, wherein the
base packages and delta packages are assembled according to the schedule.

38.   The apparatus of claim 34, further comprising means for
scheduling the multicast transmission of base package packets and for
scheduling subsequent periodic multicast transmission of delta package
packets, wherein the base package packets and delta package packets are
multicast according to the schedule.

39.   The apparatus of claim 38, wherein base package packets are scheduled for transmission at a time when the receiver is not likely to be in use for other applications.

40.   The apparatus of claim 39, wherein the base package packets are scheduled for transmission late at night or early in the morning.

41.   The apparatus of claim 34, further comprising means for compressing a subset of the URL data items in the base and delta packages, wherein each URL data item is compressed individually independent of other URL data items such that each compressed URL data item can be decompressed without decompressing other URL data items.

42.   The apparatus of claim 41, wherein the URL data items are compressed with a lossless data compression algorithm.

43.   The apparatus of claim 41, further comprising means for difference compressing a subset of the URL data items that are present in both in the delta package and the previous base package.

44.   The apparatus of claim 43, wherein the difference compression means further comprises:
    means for dividing a URL data item in the delta package into sections; and
    for each section, means for placing into a compressed version of the URL data item, one of a reference to where that section can be found in the base package, or the section of URL data item from the delta package.

45.   The apparatus of claim 44, further comprising means for
compressing a subset of the previously difference compressed URL data item
with a lossless data compression algorithm.

46.   The apparatus of claim 34, further comprising means for
assembling a second delta package which contains URL data items which have
changed since the assembling of the previous delta package.

47.   An apparatus that transmits content organized into channels,

2   wherein a channel's content includes a plurality of URL data items and each

URL data item is addressed by a URL, the apparatus comprising:

4   means for scheduling the assembling of a channel's content;

means for assembling the channel's content according to the schedule;

6   means for fragmenting the channel's content into packets;

means for multicasting the packets to a plurality of receivers, wherein

8   each receiver stores the received channel's content in a receiver memory; and

means for receiving usage reports from each receiver, wherein each

10   usage report identifies a subset of URL data items from the stored URL data

items that was accessed from the receiver memory.

48.   The apparatus of claim 47, further comprising means for

2   organizing the received usage reports by channel.

49.   The apparatus of claim 47, wherein each usage report contains

2   information identifying a subset of URL data items delivered to a web browser.

50.   The apparatus of claim 47, wherein the usage reports comprise a

2   set of files and wherein the URL data items accessed for each channel is

referenced in one set of files.

51.   The apparatus of claim 47, wherein the usage reports contain

2   information identifying each URL data item, from the stored URL data items,

being delivered to a web browser.

52.   The apparatus of claim 50, wherein usage reporting is performed

2   on a subset of a channel's URL data items and the files contain a separate

record for each time a usage reported URL data item was delivered to a web

4   browser, wherein the record identifies the URL of the URL data item.

53. The apparatus of claim 52, wherein the record identifies when the URL data item was delivered to the web browser.

54. The apparatus of claim 52, wherein the record contains a field uniquely identifying the user that accessed the URL data item.

55. The apparatus of claim 54, wherein the field uniquely identifying the user does not specify the identity of the user.

56. The apparatus of claim 54, wherein the field uniquely identifying the user specifies the identity of the user.

57. The apparatus of claim 47, wherein a channel's content is assembled from a web server and further comprising means for notifying the web server from which a URL data item was assembled that the URL data item was accessed by a user.

58. The apparatus of claim 57, wherein the web server is notified that the URL data item was accessed by a user by notifying the web server that the URL data item was delivered to a browser.

59. The apparatus of claim 57, wherein the web server is notified that the URL data item was accessed by initiating an HTTP GET operation for the URL data item.

60. The apparatus of claim 57, wherein the web server is notified of multiple accesses of multiple URL data items by initiating an HTTP PUT operation.

61.   The apparatus of claim 57, wherein the web server is notified of multiple accesses of multiple URL data items by initiating an HTTP POST operation.

62.   The apparatus of claim 57, wherein the web server is notified that the URL data item was accessed by e-mail, and wherein multiple accesses of multiple URL data items is reported in one e-mail.

63.   The apparatus of claim 47, further comprising means for compressing a subset of the URL data items;

means for compressing a subset of the URL data items, wherein each URL data item is compressed individually independent of other URL data item such that each compressed URL data item can be decompressed without decompressing other URL data items;

64.   A method for multicasting content organized into channels, wherein a channel's content includes a plurality of URL data items and each URL data item is addressed by a URL, the method comprising the steps of:

assigning one or multicast addresses to each channel;

scheduling the assembling of each channel's content;

assembling each channel's content according to the schedule;

fragmenting each channel's content into packets, wherein each packet is addressed with one of the channel's multicast addresses; and

transmitting the packets via a multicast network to a plurality of receivers.

65.   The method of claim 64, further comprising encrypting a subset of a channel's packets prior to transmitting the packets, wherein either all or a part of the packet are encrypted and wherein each channel's packets are encrypted with a set of encryption keys which are unique to that channel.

66. The method of claim 65, further comprising the steps of:

6   receiving requests from the receivers for access to a channel's packets,

           mapping the requested channel to the multicast addresses that carry the

8   channel's packets; and

           requesting authorization from the multicast network for the receiver to

10   access the requested channel's packets.

67. The method of claim 66, further comprising the step of

2   authenticating the requests to ensure that the requests originated from the

     receiver for which access is being requested.

68. The method of claim 64, wherein a channel's content includes

2   indexing information which allows URL data items contained within the

     channel's content to be quickly looked up by the receiver which receives the

4   channel's content.

69. The method of claim 68, wherein the channel's content further

2   includes a data structure containing each domain name present in the URLs of

     the URL data items within the channel's content.

70. The method of claim 68, wherein a channel's content includes

2   indexing information which allows URL data items contained within the

     channel's content to be quickly looked up by the receiver which receives the

4   channel's content, the method further comprising the steps of:

           scheduling a configurable number of retransmissions of the channel's

6   previously assembled content;

           specifying a transmission rate of the channel's content; and

8   fragmenting and transmitting the channel's content to the receivers

     according to the schedule at the specified transmission rate.

71   The method of claim 65, further comprising the step of
compressing a subset of the URL data items, wherein each URL data item is
compressed individually independent of other URL data items such that each
compressed URL data item can be decompressed without decompressing other
URL data items.

72.   The method of claim 71, wherein the URL data items are
compressed with a lossless data compression algorithm.

73.   The method of claim 64, further comprising the steps of:
scheduling a configurable number of retransmissions of a channel's
previously assembled content; and
fragmenting and transmitting the channel's content to the receivers
according to the schedule.

74.   The method of claim 73, further comprising the step of specifying
a transmission rate of a channel's content, wherein the packets containing the
channel's content are transmitted at the specified rate.

75.   The method of claim 73, further comprising the steps of:
assigning one or more multicast addresses to an announcement packet,
wherein the announcement packet includes an announcement of an upcoming
transmission of a channel's content; and
transmitting the announcement packet to the receivers prior to
transmitting the packets containing the channel's content.

76.   The method of claim 64, wherein the step of assembling the

2   channel's content further comprises:

    assembling a base package of the channel's content, wherein the base

4   package contains each URL data item in the channel; and

    assembling a delta package of the channel's content, wherein the delta

6   package contains URL data items which have changed or are new since the

    previous assembling of the base package.

77.   A method for transmitting content organized into channels,

2   wherein a channel's content includes a plurality of URL data items and each

URL data item is addressed by a URL, the method comprising the steps of:

4   scheduling the assembling of a channel's content;

assembling the channel's content according to the schedule;

6   compressing a subset of the URL data items, wherein each URL data

item is compressed individually independent of other URL data items such that

8   each compressed URL data item can be decompressed without decompressing

other URL data items;

10   fragmenting the channel's content into packets; and

multicasting the packets via a multicast network to a plurality of

12   receivers.

78.   The method of claim 77, wherein the URL data items are

2   compressed with a lossless data compression algorithm.

79.   The method of claim 77, wherein the step of assembling the

2   channel's content further comprises the steps of:

assembling a base package of the channel's content, wherein the base

4   package contains each URL data item in the channel; and

assembling a delta package of the channel's content, wherein the delta

6   package contains URL data items which have changed or are new since the

previous assembling of the base package.

80.   The method of claim 79, wherein the step of scheduling the

2   assembling of the channel's content comprises scheduling the assembling of the

base package and scheduling the assembling the delta package.

81.   The method of claim 80, further comprising the step of difference compressing a subset of the URL data items in a channel's content which is present in both the delta package and the previous base package.

82.   The method of claim 81, wherein the step of difference compressing further comprises the steps of:

dividing a URL data item in the delta package into sections; and

for each section, placing into a compressed version of the URL data item, one of a reference to where that section of content can be found in the base package, or the section of the URL data item from the delta package.

83.   The method of claim 82, wherein the reference to where the section of URL data item can be found in the base package is an offset from a beginning of the URL to a first byte and an offset to a last byte being referenced.

84.   The method of claim 79, further comprising the step of assembling a second delta package which contains URL data item which has changed since the assembling of the previous delta package.

85.   The method of claim 77, further comprising the step of encrypting a subset of a channel's packets prior to transmission, wherein either all or part of the packet are encrypted and wherein each channel's packets are encrypted with a set of encryption keys which are unique to that channel.

86.   A method for transmitting content organized into channels,
wherein a channel's content includes a plurality of URL data items and each
URL data item is addressed by a URL, the system comprising:
        assembling a base package of a channel's content, wherein the base
package contains each URL data item in the channel;
        fragmenting the base package into packets;
        multicasting the base package packets to a plurality of receivers;
        assembling a delta package of a channel's content, wherein the delta
package contains URL data items which have changed or are new since the
previous assembling of the base package;
        fragmenting the delta package into packets; and
        multicasting the delta package packets to the plurality of receivers.

87.   The method of claim 86, further comprising the step of
scheduling the assembling of base packages and delta packages, wherein the
base packages and delta packages are assembled according to the schedule.

88.   The method of claim 86, further comprising the step of
scheduling the multicast transmission of base package packets and for
scheduling subsequent periodic multicast transmission of delta package
packets, wherein the base package packets and delta package packets are
multicast according to the schedule.

89.   The method of claim 88, wherein base package packets are
scheduled for transmission at a time when the receiver is not likely to be in use
for other applications.

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90   The method of claim 86, further comprising the step of
compressing a subset of the URL data items in the base and delta packages,
wherein each URL data item is compressed individually independent of other
URL data items such that each compressed URL data item can be
decompressed without decompressing other URL data items.

91.   The method of claim 90, wherein the URL data items are
compressed with a lossless data compression algorithm.

92.   The method of claim 90, further comprising the step of difference
compressing a subset of the URL data items which are present in both in the
delta package and the previous base package.

93.   The method of claim 92, wherein the step of difference
compressing further comprises:
        dividing a URL data item in the delta package into sections; and
        for each section, placing into a compressed version of the URL data
item, one of a reference to where that section can be found in the base package,
or the section of the URL data item from the delta package.

94.   The method of claim 93, wherein the reference to where the
section of URL data item can be found in the base package is an offset from a
beginning of the URL to a first byte and an offset to a last byte being
referenced.

95.   The method of claim 93, further comprising compressing a subset
of the previously difference compressed URL data items with a lossless data
compression algorithm.

96.   The method of claim 86, further comprising the step of

2   assembling a second delta package that contains URL data items that have

changed since the assembling of the previous delta package.

97.   A method for transmitting content organized into channels,

2   wherein a channel's content includes a plurality of URL data items and each
URL data item is addressed by a URL, the method comprising the steps of

4   scheduling the assembling of a channel's content;
assembling the channel's content according to the schedule;

6   fragmenting the channel's content into packets;
multicasting the packets to a plurality of receivers, wherein each

8   receiver stores the received channel's content in a receiver memory; and
receiving usage reports from each receiver, wherein each usage report

10   identifies a subset of URL data items from the stored URL data items that was
accessed from the receiver memory.

98.   The method of claim 97, further comprising the step of

2   organizing the received usage reports by channel.

99.   The method of claim 97, wherein each usage report contains

2   information identifying a subset of URL data items delivered to a web browser.

100.   The method of claim 97, wherein the usage reports comprise a

2   set of files, and wherein the URL data item accessed for each channel is
referenced in one set of files.

101.   The method of claim 97, wherein the usage reports contain

2   information identifying each URL data item, from the stored URL data items,
being delivered to a web browser.

102. The method of claim 100, further comprising the step of performing usage reporting on a subset of a channel's URL data items and wherein the files contain a separate record for each time a usage reported URL data item was delivered to the web browser, and wherein the record identifies the URL of the URL data item.

103. The method of claim 102, wherein the record identifies when the URL data item was delivered to the web browser.

104. The method of claim 102, wherein the record contains a field uniquely identifying the user that accessed the URL data item.

105. The method of claim 104, wherein the field uniquely identifying the user does not specify the identity of the user.

106. The method of claim 104, wherein the field uniquely identifying the user specifies the identity of the user.

107. The method of claim 97, wherein a channel's content is assembled from a web server and further comprising the step of notifying the web server from which a URL data item was assembled that the URL data item was accessed by a user.

108. The method of claim 107, wherein the web server is notified that the URL data item was accessed by a user by notifying the web server that the URL data item was delivered to a browser.

109. The method of claim 107, wherein the web server is notified that the URL data item was accessed by initiating an HTTP GET operation for the URL data item.

110. The method of claim 107, wherein the web server is notified of multiple accesses of multiple URL data items by initiating an HTTP PUT operation.

111. The method of claim 107, wherein the web server is notified of multiple accesses of multiple URL data items by initiating an HTTP POST operation.

112. The method of claim 107, wherein the web server is notified that the URL data item was accessed by e-mail, and wherein multiple accesses of multiple URL data item is reported in one e-mail.

113. The method of claim 97, further comprising the step of compressing a subset of the URL data items, wherein each URL data item is compressed individually independent of other URL data items such that each compressed URL data item can be decompressed without decompressing other URL data items.

114.   A receiver for receiving from a multicast network content

2   organized into channels, wherein a channel's content includes a plurality of

URL data items and each URL data item is addressed by a URL, and wherein

4   the multicast network transmits the channel's content to the receiver in packets,

the receiver comprising:

6   means for determining a multicast address used to carry a channel's

packets;

8   means for enabling reception of packets containing a channel's

multicast address;

10   means for receiving the packets containing a channel's multicast

address;

12   means for assembling the received packets into a channel's content;

        means for storing the channel's content; and

14   means for allowing a user to access the stored channel's content.

115.   The receiver of claim 114, wherein some of the received packets

2   are wholly or partially encrypted and the receiver further comprises means for

decrypting the encrypted packets using a decrypting key unique to the channel.

116.   The receiver of claim 114, wherein the receiver is only

2   authorized to receive selected packets.

117.   The receiver of claim 114, wherein the channel's content is

2   stored in a single file.

118.   The receiver of claim 114, wherein the channel's content is

2   stored in a number of files, and wherein the number of files is less than the total

number of URL data items in the channel.

119.   The receiver of claim 114, further comprising means for allowing the user to designate the channels to be received.

120.   The receiver of claim 119, further comprising means for only receiving the user designated channels.

121.   The receiver of claim 120, further comprising means for displaying to the user the set of channels which can be received.

122.   The receiver of claim 121, further comprising means for receiving an electronic program guide channel, wherein the content of the electronic program guide channel includes channel selection information allowing the user to evaluate which channels the receiver should receive.

123.   The receiver of claim 122, further comprising means for receiving updates for the electronic program guide channel.

124.   The receiver of claim 122, wherein the channel selection information in the electronic program guide channel includes a schedule for when the content of the channels will be transmitted.

125.   The receiver of claim 122, wherein the channel selection information in the electronic program guide channel includes an amount of memory space needed to store the channel's content.

126.   The receiver of claim 114, further comprising means for determining whether all the packets for a channel have been received.

127.   The receiver of claim 126, wherein the multicast network
transmits packets to the receiver more than once and further comprising means
for determining which packets for a channel were not received and assembling
the channel's missing packets from the retransmitted packets.

128.   The receiver of claim 114, wherein the receiver comprises a
personal computer.

129.   The receiver of claim 114, wherein the receiver comprises a set
top box.

130.   The receiver of claim 114, wherein the receiver is integrated
with a digital television.

131.   The receiver of claim 114, further comprising:
       means for determining when a URL data item requested to be accessed
by the user is not present within the stored channel content,
       means for notifying the user that the requested URL data item is not
present within the stored channel content, and
       means for allowing the user to access the non-present URL data item
via a connection to a TCP/IP network.

132.   The receiver of claim 131, wherein the TCP/IP network
comprises the Internet.

133.   The receiver of claim 131, further comprising means for
soliciting the user whether to access the non-present URL data item via the
connection to the TCP/IP network..

134   The receiver of claim 132, wherein the multicast network is a

2   geosynchronous satellite broadcast system and wherein the connection to the

Internet is a dial-up modem.

135.   The receiver of claim 114, further comprising means for

2   tracking each time the user accesses URL data items in the stored channel

content.

136.   The receiver of claim 135, further comprising means for

2   reporting the tracked user accesses to a web site from which the accessed URL

data items were assembled.

137.   The receiver of claim 114, wherein the packet receiving means

2   monitors receiver activity and selectively receives packets based on the

monitored activity.

138.   The receiver of claim 114, further comprising means for

2   soliciting the user to determine when packets should be received and wherein

the packet receiving means selectively receives packets based on user

4   preferences.

139.   A receiver for receiving from a multicast network content

2   organized into channels, wherein a channel's content includes a plurality of

URL data items and each URL data item is addressed by a URL, and wherein

4   the multicast network transmits the channel's content to the receiver in packets,

the receiver comprising:

6   means for determining a multicast address used to carry a channel's

packets;

8   means for enabling reception of packets containing a channel's

multicast address;

10   means for receiving the packets containing a channel's multicast

address;

12   means for assembling the received packets into a channel's content;

means for storing the channel's content;

14   means for allowing a user to access the stored channel's content; and

means for individually decompressing each compressed URL data item

16   in the stored channel content at a time when the user accesses the URL data

item.

140.   The receiver of claim 139, wherein the URL data item is

2   decompressed a first time the user access the URL data item and further

comprising means for storing the decompressed URL data item.

141.   The receiver of claim 139, wherein the URL data item is

2   decompressed each time a user access the URL data item.

142.   The receiver of claim 139, wherein the multicast network

2   transmits a channel's content in base package packets and delta package

packets, and the means for assembling the base package packets into a

4   complete base package and assembling the delta package packets into a

complete delta package.

143.   The receiver of claim 142, wherein the means for storing the channel's content stores the complete base package for the channel and the complete delta package for the channel.

144.   The receiver of claim 142, wherein the means for allowing a user to access the stored channel's content provides the user with a URL data item from a delta package when the URL data item is present in a delta package and provides the user a URL data item from a base package when the URL data item is not present in a delta package.

145.   A receiver in a multicast system, comprising:

2   means for receiving URL data items from a multicast network;

           means for storing the received URL data items;

4   means for allowing a user to access the stored URL data items; and

           means for tracking user access to the stored URL data items.

146.   The receiver of claim 145, wherein the URL data items are

2   assembled from a web site and further comprising means for reporting the

tracked user access to the web site.

147.   The receiver of claim 145, wherein the tracking means includes

2   means for counting a number of times the user accesses a subset of the stored

URL data items.

148.   The receiver of claim 145, further comprising:

2   means for determining when a URL data item requested to be accessed

by the user is not present within the stored URL data items,

4   means for notifying the user that the requested URL data item is not

present within the stored URL data items, and

6   means for allowing the user to access the non-present URL data item

via a connection to a TCP/IP network.

149.   The receiver of claim 148, further comprising means for

2   soliciting the user whether to access the non-present URL data item via the

connection to the TCP/IP network.

150.   The receiver of claim 148, wherein the multicast network is a

2   geosynchronous satellite broadcast system and wherein the connection to the

TCP/IP network is a dial-up modem.

151. A receiver in a multicast system, comprising:

means for monitoring receiver activity; and

means for selectively receiving content from a multicast network, wherein the content is selectively received based on the monitored receiver activity.

152. The receiver of claim 151, wherein the monitoring means monitors whether any other applications are currently active on the receiver.

153. The receiver of claim 151, wherein the monitoring means monitors utilization of a receiver memory.

154. The receiver of claim 151, wherein the monitoring means monitors user activity on an input device of the receiver.

155. The receiver of claim 154, wherein the receiver is a personal computer and the user activity comprises keystrokes on a keyboard input device.

156. The receiver of claim 154, wherein the receiver is a personal computer and the user activity comprises clicks on a mouse input device.

157. The receiver of claim 156, wherein the user activity further comprises keystrokes on a keyboard input device.

158. The receiver of claim 151, further comprising means for soliciting a user to specify when content should be received and wherein the receiving means receives content based on the user specifications.

159.   The receiver of claim 158, wherein the user specifications
2   include time of day when content should be received.

160.   The receiver of claim 158, wherein the content comprises base
2   packages and delta packages and the user specifications includes a first time
        period when base packages can be received and a second time period when
4   delta packages can be received.

161.   The receiver of claim 151, further comprising means for
2   suspending reception of content when the monitoring means determines that
        reception will interfere with other receiver activity.

162.   The receiver of claim 161, further comprising means for
2   automatically enabling reception of content after the monitoring means
        determines that reception will not interfere with other receiver activity.

163.   The receiver of claim 161, further comprising means for
2   automatically enabling reception at a time of day when reception will most
        likely not interfere with other receiver activity.

164.   The receiver of claim 161, wherein the monitoring means
2   determines that reception will not interfere with other activity by monitoring
        user activity on an input device of the receiver.

165.   The receiver of claim 164, wherein the receiver is a personal
2   computer and the user activity comprises clicks on a mouse input device.

166.   A receiver in a multicast system, comprising:

a package receiver for receiving packets containing URL data items from a multicast network and assembling the received packets into a channel, wherein the channel comprises a set of URL data items;

a memory for storing the channel; and

a content viewer for allowing a user to request access to and access the URL data items in the stored channel.

167.   The receiver of claim 166, further comprising a browser for searching the memory for URL data items requested by the user.

168.   The receiver of claim 166, wherein the receiver comprises a personal computer.

169.   The receiver of claim 166, wherein the receiver comprises a set top box.

170.   The receiver of claim 166, wherein the receiver is integrated with a digital television.

171.   The receiver of claim 166, wherein the packets received from the multicast network are encrypted and the package receiver decrypts the packets.

172.   A system for multicasting URL data items from web sites to a
plurality of receivers, comprising:

a web crawler for retrieving URL data items from the web sites and
formatting the retrieved URL data items into packages;

a package delivery subsystem for receiving the packages from the web
crawler, fragmenting the packages into packets and transmitting the packets to
a multicast network; and

a conditional access system for determining which receivers are
authorized to receive the packets, wherein the multicast network multicasts the
packets only to authorized receivers.

173.   The system of claim 172, wherein the web crawler retrieves
URL data items from the web sites according to a predetermined channel
definition.

174.   The system of claim 172, wherein the multicast network
multicasts an electronic program guide to each receiver, and wherein the
electronic program guide contains descriptions of the web sites from which
URL data items were retrieved.

175.   The system of claim 174, wherein a receiver uses the electronic
program guide to subscribe to selected web sites and the system further
comprises a registration server for tracking subscription information.

176.   The system of claim 175, wherein the registration server
provides the subscription information to the package delivery subsystem.

177.   The system of claim 172, further comprising a cache hit tracker which receives usage reports from the receivers, wherein the usage reports contain information identifying which URL data items, from the set of URL data items received by the receiver, were accessed by a user.

178.   The system of claim 177, wherein the cache hit tracker stores the usage reports in hit log files.

179.   The system of claim 178, wherein the cache hit tracker provides the hit log files to the web sites from which the URL data items were retrieved.

180.   The system of claim 172, wherein the multicast network multicasts the packets to the receiver over a one-way high speed link.

181.   The system of claim 180, wherein the high speed link comprises a satellite link.

182   A system for multicasting content organized into channels to a
plurality of receivers, wherein a channel's content includes a plurality of URL
data items from at least one web site, comprising:

a web crawler for retrieving the URL data items from the web site via a
TCP/IP network and formatting the retrieved URL data items into packages;

a package delivery subsystem for receiving the packages from the web
crawler and fragmenting the packages into packets;

a conditional access system for determining which receivers are
authorized to receive the packets; and

a multicast network for receiving the packets from the package delivery
subsystem, wherein the conditional access system encrypts the packets and the
multicast network multicasts the encrypted packets to the authorized receivers,
and wherein the authorized receivers store the packets in a memory and
decrypt the packets.

183.   The system of claim 182, wherein the web crawler compresses a
subset of the retrieved URL data items, and wherein each URL data item is
compressed individually independent of other URL content such that the
receiver can decompress each URL data item without decompressing other
URL data items.

184.   The system of claim 182, wherein the web crawler assembles a
base package containing each URL data item in the channel and subsequently
assembles a delta package containing URL data items which have changed or
are new since the previous assembling of the base package.

185.   The system of claim 184, wherein the web crawler assembles
the base packages and delta packages according to a schedule.

186 The system of claim 184, wherein the multicast network multicasts the base packages and the delta packages according to a schedule.

187. The system of claim 186, wherein the base packages are scheduled for multicasting at a time when the receiver is not likely to be in use for other applications.

188. The system of claim 184, wherein the web crawler compresses a subset of the retrieved URL data items, and wherein each URL data item is compressed individually independent of other URL content such that the receiver can decompress each URL data item without decompressing other URL data items.

189. The system of claim 188, wherein the web crawler difference compresses a subset of the URL data items that are present in both the delta package and the previous base package.

190. The system of claim 189, wherein the web crawler performs difference compression by:
    dividing a URL data item in the delta package into sections; and
    for each section, places into a compressed version of the URL data item, one of a reference to where that section can be found in the base package, or the section of the URL data item from the delta package.

191. The system of claim 184, wherein the web crawler assembles a second delta package which contains URL data items which have changed since the assembling of the previous delta package.

192. The system of claim 182, wherein each receiver comprises a content viewer for allowing a user to access the stored URL data items.

193.   The system of claim 192, further comprising a cache hit tracker

2   which receives usage reports from the receivers, wherein the usage reports

contain information identifying which URL data items, from the set of stored

4   URL data items, was accessed by a user.

194.   The system of claim 193, wherein the cache hit tracker provides

2   the usage reports to the web sites from which the accessed URL data items

were retrieved.

195.   The system of claim 182, wherein the TCP/IP network

2   comprises the Internet.

196.   The system of claim 182, wherein the multicast network

2   multicasts the packets to the receiver over a one-way high speed link.